REMARKS

In view of the following remarks, the Examiner is requested to withdraw the rejection and allow Claims 1-20, 22-26, and 35-36 the only claims pending and currently under examination in this application after entry of the above amendments.

Upon entry of the foregoing amendments, Claims 1-19, 22-26, and 35-36 are pending and under consideration. Claims 35 and 36 have been added. Support for these new claims may be found in the specification, for example, at paragraphs [0052] and [0056]. Claim 29 is presently cancelled, Claim 21 has previously been canceled, and Claims 27-34 have previously been withdrawn. Accordingly, no new matter has been added by the amendments filed herein.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 19 and 22-26 remain rejected under 35 U.S.C. § 102(b) as being anticipated by Uetani et al. (U.S. Patent Application Publication No. 2001/0026905)

Claim 19 is directed to a method of producing an adhesive composition having *improved* adhesive characteristics for use in bonding a ceramic material to a manufacturing tool, comprising adding a solvent to a resist adhesive resin, wherein the solvent has a boiling point in the range of about 30° C to about 70° C, in a manner sufficient to produce said adhesive composition with improved adhesive characteristics.

As such, an element of Claim 19, and the claims dependent there from, is the production of an adhesive composition that has an improved adhesive characteristic.

The MPEP § 2131specifically teaches that a claim is anticipated by a reference only if the ***reference teaches each and every element of the claim.***

In the Applicants' response filed March 19, 2008, the Applicants pointed out that Uetani et al. is drawn to a resist composition that comprises an alkali-soluble novolac resin and a radiation-sensitive quinonediazide compound for use in the fine processing of semiconductor integrated circuits. Nowhere throughout the disclosure of Uetani et al. is the production of an

adhesive composition taught. In fact, Uetani does not even reference the word "adhesive" throughout its entire specification.

The Office, however, takes Official Notice of the alleged fact that the resist composition disclosed in Uetani is an "adhesive composition." The Applicants respectfully disagree and would like to draw the attention of the Office to *In re Ahlert*, wherein it was indicated that it is not appropriate for an examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known (emphasis added). See *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21.

The Applicants contend that the context of Uetani clearly indicates that the resist composition is not being employed as an adhesive, in the first place, and secondly, the disclosed composition is definitely not an adhesive composition that includes improved adhesive characteristics. Specifically, the resist composition disclosed in Uetani includes a novolac resin that includes a quinonediazide photosensitizer. The addition of the quinonediazide to the novolac resin changes the properties of the novolac resin diminishing its ability to be employed as an adhesive. For instance, the Applicants have clearly shown in Example 2 of the present disclosure that the addition of a photosensitive compound, such as quinonediazide, to a novolac resin renders the composition unsuitable as a debondable adhesive. As shown in Example 2, the addition of a photosensitizer to a novolac resist resulted in a 75% loss in yield.

Accordingly, although Uetani discloses the production of a positive resist composition, there is no teaching in Uetani that indicates that the positive resist composition produced is an "adhesive composition," and as evidenced by Example 2, even if such a composition could be construed to be an adhesive composition, because it includes quinonediazide it is not a composition that includes improved adhesive characteristics. Therefore, Uetani does not teach every element of the rejected claims, namely, an adhesive composition with improved adhesive characteristics. Consequently, Uetani does not anticipate the claimed invention and this rejection may be withdrawn.

Claims 19 and 22-26 remain rejected under 35 U.S.C. § 102(b) as being anticipated by Teiichi et al. (WO 01/60938 with U.S. Patent Application Publication No. 2001/0026905 used as a translation)

Claim 19, from which depend the remaining claims subject to the rejection, is drawn to a a method of producing an adhesive composition wherein the adhesive composition itself is produced by a method that includes a solvent having a boiling point in the range of about 30° C to about 70° C.

Teiichi et al. does not describe a method with this feature. This reference is drawn to a composition that can form a film which has enough heat resistance and moisture resistance such that a semiconductor element having a large coefficient of thermal expansion may be mounted on a substrate via use of the film. In producing the adhesive film, Teiichi indicates:

> **[0131]** The adhesive film of the present invention is obtained as an adhesive layer formed on a support film by a method in which the adhesive composition of the present invention is dissolved or dispersed in a solvent such as methyl ethyl ketone, toluene, cyclohexanone, etc. to prepare a varnish, and the prepared varnish is coated to a support film such as a polytetrafluoroethylene film or a polyethylene terephthalate film having a release-treated surface, and then heated and dried to remove the solvent.

As can be seen with reference to paragraph 131, the recited solvents of the adhesive film include methyl ethyl ketone, toluene, and cyclohexanone. The boiling point for each of these compounds is above 70° C. As an element of the rejected claims is the use of a solvent that has a boiling point in the range of about 30° C to about 70° C, the solvent employed in the adhesive film disclosed in Teiichi falls outside of the range recited in the rejected claims.

The Office, however, cites to paragraph 137 for the use of acetone as a solvent in the production of the adhesive film. The Applicants, however, disagree and contend that to the extent that Teiichi discloses the use of acetone as a solvent it is in the production of a varnish that may be used to coat the adhesive film as a support layer. See paragraph 134. Specifically, although the support layer may be produced in a manner that includes an acetone solvent, the

adhesive composition itself is not produced in a manner that includes acetone. For instance, paragraph 137 goes on to state:

> nol, ethanol, 2-methoxyethanol, etc. Further, for the purpose of improving the coating properties, a solvent having a relatively high boiling point such as dimethylacetamide, dimethylformamide, N-methylpyrrolidone, cyclohexanone, etc. may be added.

This is substantiated by paragraph [0132] wherein Teiichi discloses that the temperature used to remove the solvent used in the production of the adhesive composition is between 80° C to 250° C.

Accordingly, Teiichi does not disclose a method of producing an adhesive composition, wherein the adhesive composition itself is produced by a method that includes a solvent having a boiling point in the range of about 30° C to about 70° C. Therefore, Teiichi does not teach every element of the rejected claims, namely, the use of an adhesive composition that includes a solvent having a boiling point in the range of about 30° C to about 70° C. Consequently, Teiichi does not anticipate the claimed invention and this rejection may be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 15-20 and 22-26 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruiz (U.S. Patent No. 5,406,694) in view of Teiichi et al. (WO 01/60938 with U.S. Patent Application Publication No. 2001/0026905 used as a translation)

Ruiz is directed to methods of fabricating thin-film magnetic recording heads, or sliders, which employ the step of slicing a wafer containing like-oriented transducers into chunks.

An element of Claim 15 is the employment of a de-bondable adhesive composition that was produced by a method that includes a solvent having a boiling point in the range of about 30° C to about 70° C.

Neither Ruiz nor Teiichi teach or suggest the employment of a de-bondable adhesive composition that was produced by a method that includes a solvent having a boiling point in the range of about 30° C to about 70° C.

In maintaining this rejection, the Office acknowledges that Ruiz is deficient in that it does not disclose the use of an adhesive that includes a solvent, in the first place, let alone a solvent that is debondable and includes a boiling point in the range of about 30° C to about 70° C. The Office, therefore, relies on Teiichi to remedy this deficiency. Specifically, the Office asserts it would be obvious to use the adhesive disclosed in Teiichi in the process disclosed in Ruiz.

The Applicants, however, disagree. First of all, as described in detail above, the Applicants contend that Teiichi does not disclose the production of an adhesive composition that includes a solvent having a boiling point in the range of about 30° C to about 70° C. Rather, at most, Teiichi discloses the production of a support film where the process of producing the support film may include the use of acetone as a solvent. However, the support film disclosed in Teiichi is not an adhesive.

Furthermore, even if Teiichi were to disclose the production of an adhesive which production step employed the use of a solvent having a boiling point in the range of about 30° C to about 70° C, Teiichi is still deficient in that it fails to teach or suggest the use of a debondable adhesive.

The Office, however, asserts that because the Applicants have not shown that the adhesive employed by Teiichi is not debondable, then it is assumed that the adhesive is in fact debondable. The Applicants respectfully disagree and contend that the reasoning of the Office is erroneous in this regard. Specifically, the result of the reasoning of the Office is erroneously to shift the burden of presenting a *prima facie* case of obvious from the Office to the Applicants. By following the reasoning of the Office, it would now be incumbent on the Applicants to prove that a recited element of the claim is not met by the cited art. This is contrary the rulings of the Federal Circuit which state that it remains well-settled law that obviousness requires at least a suggestion of all of the features in a claim. See In re Wada and Murphy, citing CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) and In re Royka, 490 F.2d 981, 985 (CCPA 1974)). In this instance, the Office simply has not shown where Ruiz or Teiichi teach or suggest the employment of a de-bondable adhesive composition, and therefore, a *prima facie* case of obviousness has not been established for this reason alone this rejection may be withdrawn.

Additionally, even if Teiichi were to disclose a de-bondable adhesive, a *prima facie* case of obviousness could still not be established because the Applicants contend that Ruiz cannot be combined with Teiichi in the manner proposed by the Office. Ruiz cannot be combined with Teiichi because Ruiz teaches away from such a combination. According to the Court in *In re Grasselli*, it is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Specifically, Ruiz discloses the use of a thermo-set adhesive that must be permanent. See, for instance, column 7, lines 41-42, provided bellow:

> **FIG. 6 shows a first method of slicing the chunks 40, the process being repeated for each chunk 40 of FIG. 4. First, the air-bearing surface side of the chunk 40 is bonded to a rigid support piece 50 using permanent thermo-set adhesive. The support piece 50 may conveniently be formed from the same material as the wafer 10. The support piece 50 allows the chunk 40 to be clamped during a subsequent slice, but more importantly, it also allows the chunk 40 to maintain its original straightness through the subsequent bonding and slicing iterations of FIG. 6.**

Accordingly, as can be seen with reference to the above, Ruiz is limited to the type of thermo-set adhesive that may be used as Ruiz discloses that the thermo-set adhesive must be permanent.

The Office, however, asserts that the term "de-bondable" does not exclude adhesives considered permanent. The Applicants respectfully disagree. According to the Merriam-Webster On-line dictionary the term *permanent* means: continuing or enduring without fundamental or marked change. Accordingly, if an object is permanently bonded it necessarily remains bonded as to become de-bonded would constitute a fundamental and marked change. Hence, contrary to the assertion of the Examiner, the term "de-bondable" with reference to adhesives necessarily excludes permanent adhesives.

Hence, because the thermo-set adhesive in Ruiz is permanent, it is not de-bondable. Thus, using the rationale provided by the Office, if one were to combine Ruiz and Teiichi, one

would still not arrive at the Applicants claimed invention, as the adhesive composition would be permanent and not de-bondable as claimed. Therefore, the Applicants contend for this reason alone a *prima facie* case of obviousness has not been presented.

Therefore, in view of the above, a *prima facie* case of obviousness has not been established because Ruiz in combination with Teiichi et al. fails to teach or suggest each and every element of the instant invention, namely, the step of employing a de-bondable adhesive composition that includes a solvent having a boiling point in the range of about 30° C to about 70° C in the manufacture of a slider for a hard disk drive. Furthermore, even if Ruiz in combination with Teiichi were teach every element of the rejected claims, a *prima facie* case could not be established because Ruiz teaches away from the claimed invention in that Ruiz discloses that the adhesive must be permanent. Accordingly, a *prima facie* case of obviousness has not been provided and this rejection may be withdrawn.

Claims 1-5, 7-10 and 12-14 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruiz (U.S. Patent No. 5,406,694) and Teiichi et al. (WO 01/60938 with U.S. Patent Application Publication No. 2001/0026905 used as a translation) as applied to claims 15-20 and 22-26 above, and further in view of Tanaka et al. (U.S. Patent No. 4,376,194)

As set forth above, the combined teaching of Ruiz and Teiichi et al. is deficient in that it fails to teach or suggest all the elements of the rejected claims, namely, the step of employing a de-bondable adhesive composition that includes a solvent having a boiling point in the range of about 30° C to about 70° C in the manufacture of a slider for a hard disk drive. Additionally, Ruiz cannot be combined with Teiichi because Ruiz teaches away from the claimed invention. As the Office cites Tanaka et al. solely for reciting the steps of applying the adhesive to a first composition and then a second composition and then subjecting the adhesive to conditions effective for removing the solvent, Tanaka et al. fails to make up for the deficiency of Ruiz and Teiichi et al. Accordingly, a *prima facie* case of obviousness has not been established and this rejection may be withdrawn.

Claim 11 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruiz (U.S. Patent No. 5,406,694) and Teiichi et al. (WO 01/60938 with U.S. Patent Application Publication No. 2001/0026905 used as a translation) and Tanaka et al. (U.S. Patent No.

4,376,194) as applied to claims 1-5, 7-10 and 12-14 above, and further in view of Schafer (U.S. Patent No. 5,421,884)

Claim 11 is directed the method of claim 1, as set forth above, wherein the conditions that are effective to remove the solvent from the adhesive include subjecting the adhesive to vacuum conditions. As set forth above, the combined teaching of Ruiz and Teiichi et al. is deficient in that it fails to teach or suggest all the elements of the rejected claims, namely, the step of employing a de-bondable adhesive composition that includes a solvent having a boiling point in the range of about 30° C to about 70° C in the manufacture of a slider for a hard disk drive. Additionally, Ruiz cannot be combined with Teiichi because Ruiz teaches away from the claimed invention. As the Office cites Schafer et al. for disclosing a technique for removing solvent from an adhesive by applying vacuum and heat conditions, Schafer et al. fails to make up for the deficiency of Ruiz, Teiichi et al., and Tanaka et al. Therefore, a *prima facie* case of obviousness has not been established and this rejection may be withdrawn.

Claims 1-5, 6, 8, 9, 12-15 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruiz (U.S. Patent No. 5,406,694) in view of Asami et al. (JP 60221476) and Tanaka et al. (U.S. Patent No. 4,376,194)

An element of Claim 1 as amended includes the use of a de-bondable adhesive composition. As previously discussed above, Ruiz is directed towards methods of fabricating thin-film magnetic recording heads or sliders which employ the step of slicing a wafer containing like-oriented transducers into chunks. Further, as described above, Ruiz actually teaches away from this element as claimed because Ruiz discloses the use of a permanent thermo-set adhesive. Accordingly, because Ruiz teaches away from the claimed invention, the combination of Ruiz with Asami et al. and Tanaka et al. fails to teach each and every limitation of the Applicants' claims, namely, the use of a de-bondable adhesive composition. Accordingly, a *prima facie* case of obviousness has not been established and this rejection may be withdrawn.

NEW CLAIMS

New claims 35 and 36 depend ultimately from Claim 19. Accordingly, for the reasons set forth herein above, these claims are patentable over the prior art.

CONCLUSION

Applicants respectfully submit that the application is in condition for allowance and request an allowance for same. Please charge any fees due or credit any overpayment to the undersigned's Deposit Account No. 18-0580, Reference No. 4800-0009.

Respectfully submitted,

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